WSTF employees, high school students spend weekend on Mars

Sixty-five students and four educators spent a weekend learning more about the red planet when they attended the Third Annual Mars Settlement Design Competition. The event was sponsored by Johnson Space Center and White Sands Test Facility (WSTF). In the Mars Settlement Design Competition, students write and present a proposal for a settlement on Mars that will accommodate more than 14,000 people. Within this framework, the students learn how to work in teams, meet company deadlines and consider cost and budget.

The students worked throughout the morning and midnight hours preparing a proposal that would answer the criteria set forth by Anita Gale and Dick Edwards – Boeing systems engineers and cofounders of the Mars Settlement Design Competitions. The teams then presented their settlement design proposals on Sunday morning to a panel of industry judges. Each proposal was limited to 50 pages and a 30-minute presentation.

Opening ceremonies keynote speaker NASA astronaut Bonnie Dunbar, Ph. D., and spotlight speaker Brian Derkowski, JSC Advanced Development Office, enlightened parents, students and educators about the benefits of NASA exploration and programs on Mars.

Gale and Edwards also spoke about the benefits of the competition as related to the student's future in creating a successful, collaborative workplace.

At the event, Science Advisors (SciAds) were in a commons area, while the judging of the proposals occurred. Vacuum, micro gravity and rocketry were the SciAd topics presented to students and educators.

One of the interesting questions asked to participants at the Vacuum table was: Can boiling water reach freezing temperatures? The demonstration shows that the answer is yes. As the atmosphere (within the bell jar dome) is reduced to below the vapor pressure, the water boils and releases heat. As heat is released, the water cools. As the pressure approaches vacuum, this cooling pattern continues until the water freezes.

First-time CEO Erin Edgerly (NASA/WSTF Co-op) spearheaded the winning team. "The kids were really great. If I had known about this competition in high school, I would have wanted to participate," Edgerly said. "As it was, I enjoyed participating in the competition as a CEO."

Participant Kristin Bishop told the audience at the closing ceremonies that the event was "Awesome! This is my third competition, and I can't express how wonderful this experience is."

Gale echoes Bishop's comment. "I am often thrilled by the student's reaction to the competition. They feel that the competition has changed their lives."

Gale isn't alone in her thinking. New Mexico High School Educator Mark Bono agreed when he wrote to Pleddie Baker, Mars Settlement Design Coordinator. "Thank you for the opportunity you gave my kids this weekend. They are still on adrenaline highs and organizing a request for proposal for the international competition. I know this will be an annual event for my students. The fact that you do all of this work for these kids is not unappreciated. This is great advertisement for the NASA space program."

This year's competition was indeed a success. "We had a group of outstanding and hard-working students, as well as some very dedicated teacher chaperones," Baker said.

"The students' proposals were excellent, and it was hard for our eminently qualified judges to pick a winning team. Personally, I believe that when you participate in an experience like this, every student is a winner."

Baker went on to thank all the hard-working WSTF volunteers, NASA JSC, Honeywell and local businesses that made the event possible.

"At each Mars Settlement Design Competition, it has become evident to me that the youth of our nation are bright, eager and committed to science and engineering," said Hallock, the event co-coordinator.

"The participants apply skills from all corners of academia towards the goal of one day setting foot on Mars. Through this one event, I believe that I have spoken with the astronaut who will set foot on Mars. It is just a matter of time." ◆

Mars Settlement Design Competition participants design their team's settlement by choosing the location wisely.

Mars Settlement Design Competition Participants

Committee members
Pleddie Baker
Mike Hallock
Cheerie Patneaude
Lurlene Ford
Steve McDougle

Librarians
Vonda Litzenberg
Joan Von Wolff

Logistics and registration
Denise Barrett
Gail Bennett
Holger and Cecilia Fischer
Peggy Kiser
Steve McDougle
Linda Green
Lurlene and Lindy Ford
Asher and Rechelle Lieberman
Tracy Gonzales
Lindy and Lurlene Ford
Larry Schuyler
Cheerie Patneaude
Mike and Julie Hallock
Richard Von Wolff
Tom Quayle
Eliazar Obregon
Patsy Segura
Susan Staley

Technical experts
Jim Hansen
Richard Horst
James Nunez
Lou Barrera
Bob Kowalski
Brian Ross
John Anderson
Paul Spencer

CEOs
Dave Loyd
Case Van Dyke
Erin Edgerly
Lou Barrera
Deb Chowning
Science Advisors
Bill Curtis
Denzil Burnam
Aaron Paz
Mark McClure
Asher and Rechelle Lieberman
Chase Curtis

Judges
Bonnie Dunbar, Ph.D., NASA Astronaut
Brian Derkowski, JSC's Advanced Development Office
Anita Gale and Dick Edwards, cofounders
Joe Vigil, Los Alamos National Laboratories
Patricia Hynes, New Mexico Space Grant Consortium
Steve Sanchez, New Mexico State Department of Education
Young Ho Park, New Mexico State University, Department of Engineering
Robert Quintana, Technology Teacher, Vista Middle School
Barry Plante, Chief, NASA Engineering Office, WSTF

JASON Project takes students to Alaska

This year the JASON Project expedition lasted from Jan. 27 through Feb. 9, with broadcasts running in Space Center Houston's Mission Status Theater Jan. 28-30 and Feb. 6 and 7. Roundup reporter* Kendra Ceule *sat in on one of the 13 broadcasts to provide a look at the fun and excitement of the JASON project.

"Three! Two! One! JASON 13!"

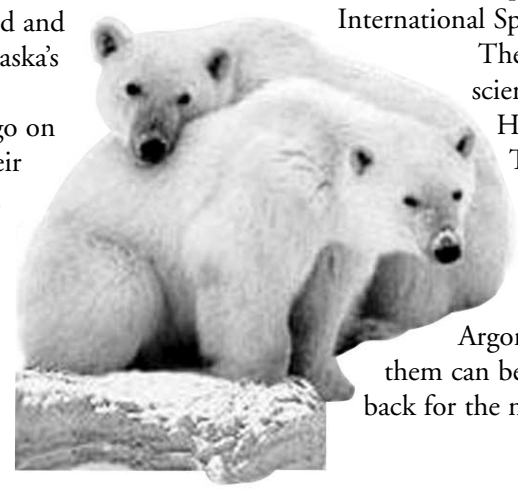
Like a belated New Year's party, the Mission Status Theater at Space Center Houston erupts in applause and cheers. More than 200 students have packed the theater, and hundreds more will come for other shows. This is no boring science field trip – this is JASON.

The JASON Project encourages kids to study science and technology by holding annual "expeditions" – two-week trips for the study of Earth's environments. A handful of students are selected every year to go on these expeditions, where they will work with top scientists to learn about Earth's life systems.

Past expeditions have allowed these students – called Argonauts – to study volcanoes in Hawaii, geysers and glaciers in Iceland and rainforests in Belize, just to name a few. This year's trip to Alaska's Seward and Portage marks the 13th expedition.

The students in the Mission Status Theater didn't get to go on this year's expedition to Alaska, but that hasn't dampened their enthusiasm. They've been studying the state's flora and fauna using JASON curriculum materials all year, and this is their payoff: A trip to Space Center Houston for a live satellite broadcast from the actual Argonauts and scientists.

Nearly 2,000 students from 34 schools in the Houston area will participate in one or more of the broadcasts. Since the broadcasts are live, each one is different.



In Alaska, a sea lion named Sugar waddles up to the camera for an unplanned close-up. The students laugh, along with the hundreds of students elsewhere in the nation who are also watching. There are dozens of broadcast sites nationally that allow students to interact with the expedition.

Johnson Space Center's Teague Auditorium had been a broadcast site since 1993, but this year it was moved to Space Center Houston due to increased security at JSC.

Education outreach coordinator Debbie Herrin doesn't mind the location change. She acts as a master of ceremonies for these interactive broadcasts, and says she likes the exciting atmosphere of Space Center Houston.

"OK, everybody clap if you think the answer is B!" Herrin says, and pockets of applause erupt. The students have just answered a multiple-choice quiz question, and their response is sent electronically to the Alaska team.

"Looks like seven broadcast sites got that one right! Way to go!" says Dr. Bob Ballard, live from Seward. Ballard, oceanographer and founder of JASON, is a personal friend of astronaut Bill Shepherd, who commanded Expedition 1.

But JSC's ties to the JASON Project don't end there: the eleventh JASON expedition, "Going to Extremes," was held at the Center in March 2000. Argonauts met astronauts, scientists and engineers, and learned about how humans protect their bodies while exploring the extremes of space. The students also set up an experiment that is now being performed on the International Space Station.

The Alaska broadcast is wrapping up; the Argonauts and scientists begin signing off. The students at Space Center Houston applaud one last time and file out of the theater. They're all smiles, but they'll take with them more than a fun memory: They leave more interested in science and more enthusiastic about exploring the world around them.

JASON may even have inspired these wannabe-Argonauts to become astronauts one day. But for now, many of them can be heard making a more immediate request: "Can we come back for the next JASON broadcast?" ◆

More information about the JASON Project...

- Dr. Robert Ballard founded the JASON Foundation for Education in 1989. Shortly after discovering the submerged wreckage of the Titanic, Dr. Ballard realized the enormous potential impact of providing students with meaningful exposure to practicing scientists and scientific discovery.
- With the assistance of partners from the scientific, government, private, educational and industrial community, Dr. Ballard pioneered the creation of telecommunication centers across the country and the dream to bring students along on his expeditions became a reality.
- Today, millions of students and teachers are exposed to the JASON Project. Each year JASON explores a different part of planet Earth in search of answers to the questions:
  - What are nature's dynamic systems?
  - How do these systems affect life?
  - What technologies do we use to study these systems and why?
- The JASON Project is an interdisciplinary program based on the National Science and Geography Standards. It integrates video programming, satellite transmissions, classroom activities and instruction, and extensive online opportunities to expose students to real science and exploration.
- Through a hands-on, inquiry driven learning experience that includes a live two-week satellite expedition, JASON inspires teachers to try new teaching techniques and effectively engages students in active learning.
- The JASON Project is an exemplary multimedia, science education project that promises to spark the imagination of students and change the way teachers are teaching.
- The Mission of The JASON Foundation for Education is to "inspire in students a lifelong passion to pursue learning in science, math and technology through exploration and discovery."
- To learn more about the JASON Project, please visit www.jasonproject.org

Profiles

Alice Lee

Time at JSC: 14 years

Organization: Technology Division, SR&QA

Position title: Chief Technologist for SR&QA and Assistant Chief of the Technology Division

Education: Master's degree in Computer Science, Rice University
Advanced Study, MIT (NASA Fellowship, 1994)

Place of birth: Taiwan

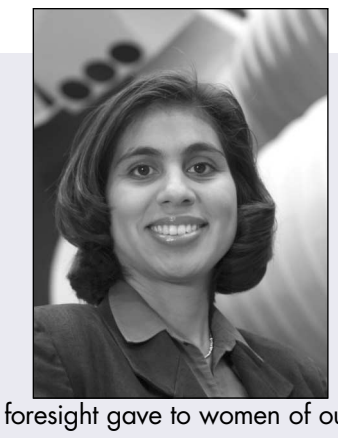
Hobbies: Chinese ink and brush painting, dancing, writing and sewing

What does Women s History Month mean to you?
The theme of this year's National Women's History Month is particularly meaningful to me as a first generation immigrant. The theme is "Women Sustaining the American Spirit." It showcases the diverse and interlocking stories of women who have created and affirmed the American spirit. This theme will help deliver the message of who American women are and what they have accomplished. Those women serve as role models to me.

Favorite words of wisdom: Those who sow in tears shall reap in joy. – Psalms 126:5

MARCH is Women's History Month

Diana T. Norman



Time at JSC: 11 years
Organization: Previously in Space & Life Sciences
Currently in External Relations Office
Position title: External Relations Specialist
Education: Associate's Degree in Office Management
Place of birth: Houston, Texas
Hobbies: Shopping, Crafts and Walking
What does Women s History Month mean to you? To take a moment to reflect on the wonderful and exciting opportunities that women with courage and foresight gave to women of our generation.
Favorite words of wisdom: Keep smiling; tomorrow will be another day.

Carla M. Bell

Time at JSC: 22 years
Organization: Center Operations Directorate
Position title: Supply Management Specialist
Education: Dickinson High School
College of the Mainland
Place of birth: Galveston, Texas
Hobbies: Reading
What does Women s History Month mean to you? To me, Women's History Month means recognizing the past, present and future achievements of women who have contributed to the making of this great country and of the world. Each woman has helped (in some way) to mold and shape history, so congratulations to each of us.
Favorite words of wisdom: I can do all things through Christ which strengtheneth me.– Philippians 4:13

Donna Winchell

Time at JSC: 5 years
Organization: CFO, FMD, Financial Services Branch
Position title: Accountant, Group Lead, NASA CTO International and JSC Travel and Internal Controls
Education: Bachelor's degree, Albany State University
MBA, Florida Institute of Technology
Place of birth: Dallas, Texas
Hobbies: Reading, scuba diving, gardening and golfing
What does Women s History Month mean to you? Recognizing and celebrating the achievements of women, then learning and building on these accomplishments to improve our quality of life.
Favorite words of wisdom: Nothing can stop the person with the right mental attitude from achieving their goal; nothing on the earth can help the person with the wrong mental attitude.

Erica Vandersand

Time at JSC: 7 years
Organization: AH3/Human Resources Development Branch
Position title: HR Development Representative
Education: B.S. in Psychology, Tulane University
M.A. in Industrial/Organizational Psychology, Rice University
Place of birth: New Orleans, Louisiana
Hobbies: Singing and computer adventure games
What does Women s History Month mean to you? I'm so busy being a woman of the 21st Century, I haven't had time to think about it before! Reflecting now on the role that women – historical figures or not – have played in our existence leads me to compare my life to those that came before me. I work in a time when I've never had to deal with the obstacles that the professional women before me faced – the glass ceiling has moved up a couple of floors due to their efforts. I live and work in a time when I get to choose between the equally respectable and valued options of being a "stay-at-home mom" or a "working mom." I wonder what the legacy of the women of the 21st Century will be?
Favorite words of wisdom: The one constant in life is change.

SPACE CENTER **Roundup**

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